

2m/70cm Base Station Dual Band High Performance Radialless Vertical Antenna

VX50N

Repeater frequencies compatible
FRP outershell

Operation Instructions

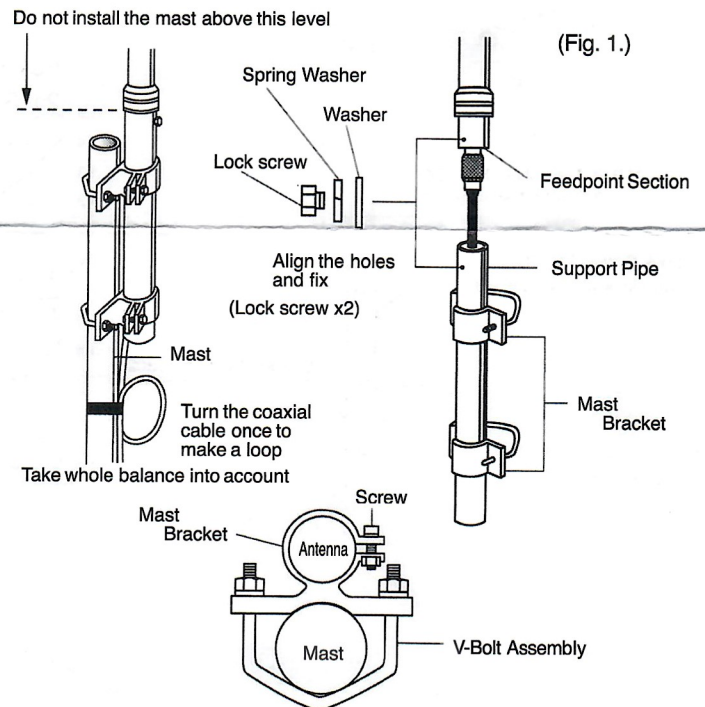
To use this antenna properly, read this instructions thoroughly before using the antenna. Keep this manual carefully at hand for later use.

Description

1. The VX50N is a base station omnidirectional vertical antenna, which covers both 2m and 70cm amateur bands with high performance and low VSWR.
2. Compact, radialless and lightweight construction permits the antenna to be installed at places like balcony railing very easily.
3. Professional antenna quality 60m/sec(135MPH)maximum wind resistance and excellent waterproof eliminates VSWR change caused by weather conditions.
4. DC ground structure of the antenna protects a radio equipment being connected to the antenna from high voltage caused by thunder lightning.
5. Both 2m and 70cm bands can be operated simultaneously by using optional duplexer. Diamond's genuine duplexer is recommended.
6. The VX50N employs gold plated connector center conductor.

Assembling

1. Fix the mast bracket assemblies on the support mast. Connect coaxial cable assembly to the feedpoint section of the antenna through inside of the pipe. Align the hole of the pipe and the hole at the lower feedpoint section of the antenna and fix with a lock screw.
2. Fix the antenna firmly by taking whole balance into account as shown in the Fig. 1.



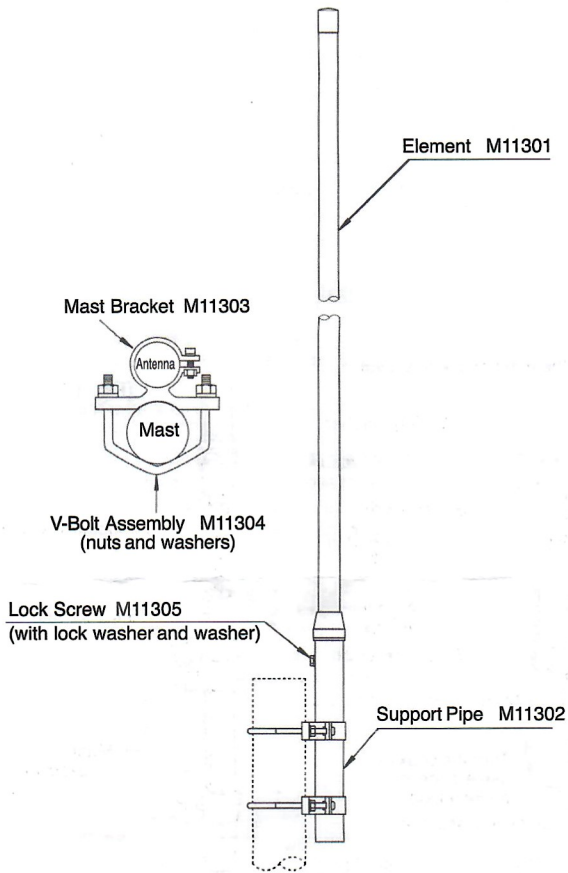
Adjustment

The VX50N antenna is completely adjustment free. If VSWR of the antenna is too high, it might be due to the poor contact at somewhere in connecting sections. It is recommended to check each connecting section at coaxial cable to feedpoint section as well as soldering sections. And if the antenna is located too close to a house or building, VSWR of the antenna can not be lowered.

Note

Though DC ground structure is employed in the VX50N, while measuring the antenna by a tester, center conductor and ground section of the antenna feedpoint section is open (not short-circuited). If it is short-circuited, be sure to fully check coaxial cable system including feedpoint connector section.

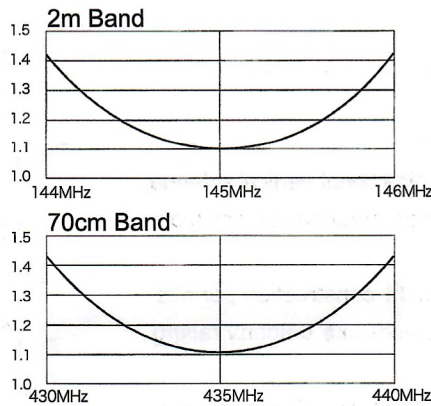
Part name(number)



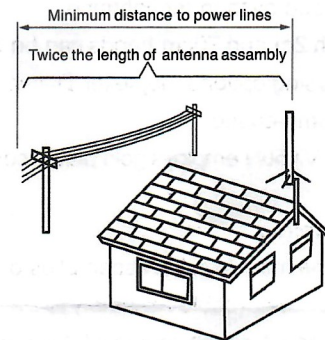
Specifications

Frequency : 144-146MHz, 430-440MHz
 Gain : 4.5dBi(2m), 7.2dBi(70cm)
 Impedance : 50ohms
 VSWR : Less than 1.5:1
 Max power rating : 100W FM(Sum of both bands)
 Max wind resistance : 60m/sec(135MPH)
 Mast diameter accepted : ϕ 30-62
 Length : 1.7m(67")
 Weight : 0.85kg
 Connector : N-J
 Type : 6/8 wave C-Load element (2m)
 5/8 wave three element C-Load (70cm)

VSWR



Next is specific installation location. As to whether specific location is adequate in terms of antenna support and surrounding safety.



FOR YOUR SAFETY

Read the following safety precautions before starting assembling the antenna.

- Assemble the antenna on the ground or wide and flat place such as on balcony before installation.
- Do not assemble or install the antenna on a place where you can not have enough distance from any electric power lines.
- Do not attempt to install the antenna only by yourself.
Installing the antenna alone on the roof may lead you dangerous accident. Always ask your friends for help installing the antenna.
- Do not use iron or aluminum ladder at a reachable distance from any electric power lines.
- Do not install the antenna on a mast which is not grounded properly.
- Do not have your family members or friends touch or come close to the antenna, unless they have realized its potential danger.

TO AVOID FATAL ACCIDENT

- Do not attempt to sustain the antenna, or any part of support structure if it begins to fall down. Let it fall by itself.
- Do not attempt to remove or restore the antenna or any part of support structure if it touches a electric power line by chance. Let it be as it is, do not touch it, and call your local electric power company immediately.

IN CASE OF AN ACCIDENT

- Do not touch a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line. Touching one may lead you to be electrocuted.
- Do not attempt to separate a person or an animal who is or seems to be in contact with the antenna or any support structure which is fallen on a live electric power line by yourself. Call or have someone call a police officer, ambulance, doctor immediately.

ANTENNA INSTALLATION PRECAUTIONS

To determine antenna installation location, there are several factors to be taken into account. First thing is antenna propagation direction to specific target stations. As to whether there is any obstacles such as tall buildings on the line of sight.

- Do not attempt to install the antenna by yourself if you do not have any experience in installing base station antenna. Ask your experienced friends or professional for help.
- Do not attempt to install the antenna at a location where does not have enough distance from nearby electric power lines. It is advised to install the antenna at least twice of total antenna height from nearby electric power lines.
- Do not install the antenna on any type of tower pole or telescopic mast which exceeds 30 feet high, if you do not have enough experience in installing the antenna on that kind of location. Ask your experienced friends or professional for help.
- Do not use more than 1/10 section if you install the antenna on iron plumber's pipe. Attach guy wire if multiple pipes are used to install the antenna.

DIAMOND ANTENNA CORPORATION